

What is claimed is:

1. A visible light responsible photocatalyst comprising a complex oxide semiconductor represented by a general formula (I): $BaBixOy$ (wherein x, y have values satisfying $0.5 < x < 2$ and $2.5 < y < 4$, respectively).

2. The photocatalyst of claim 1, characterized in that said visible light responsible photocatalyst is used for decomposing a harmful chemical substance.

3. A harmful substance decomposing and eliminating method, characterized in that the method comprises the steps of:

using a visible light responsible photocatalyst comprising a complex oxide semiconductor represented by a general formula (I): $BaBixOy$ (wherein x, y have values satisfying $0.5 < x < 2$ and $2.5 < y < 4$, respectively); and

irradiating light-beams including ultraviolet light and visible light to a harmful substance in the presence of the photocatalyst, thereby decomposing the harmful substance.